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ELEMENTS OF FILM PRODUCTION

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Steps and processes that go into the making of a film are summarized in layman's terms. The stages of film preparation, shooting, editing, and final processing are explicitly detailed. Included is a breakdown of the approximate amount of time and cost required for making each film. Sample pages of film script, a sample shooting schedule, and a lexicon of technical terms acceptable for SWRL scripts are presented in the appendices.

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ELEMENTS OF FILM PRODUCTION

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SWRL films generally have two main objectives: to inform and to orient. Attainment of the main objectives requires appropriate planning by film production personnel prior to the initiation of filming. Although many of the planning requirements for film production are unique, they are met within the common Laboratory planning framework.

Several elements and processes of film production which must be considered in the planning process are presented here.

Preparation

Shooting Script. Before scripting or photography begins on a film the general objectives of a film must be enumerated. After the specifications for a project are finalized according to established guidelines, the Film Department writes a shooting script which is then approved by the appropriate authorities. Two sample pages from a shooting script are presented in Appendix A.

Choosing the shooting location. The importance of the location is two-fold. First, the location itself should meet certain technical and aesthetic considerations. Is it well lit? If artificial light is needed, is there sufficient power available? Is the general appearance of the room favorable to the objectives? Is it quiet enough for sound recording? Extraneous noises, such as nearby construction, flight patterns, trucks, etc., can ruin a sound track. The second major consideration is that because most SWRL films are shot in actual classrooms, the choice of a location is at the same time the choice of a teacher and a class. The appearance, capability, and personalities of the teacher and the children are all extremely important for the effectiveness of the film. The final choice of location should only be made after all possible choices have been scouted and evaluated.

Making shooting arrangements. Arrangements are made to shoot at the selected location. If the location is a school, parental permission slips must be sent ahead to ensure that all children appearing in the film do so with their parent's consent.

Shooting Schedule. Every scene and sequence in the script must be scheduled to be photographed on a given day and at a given location. The actors needed, the special equipment and properties required, and anything else needed for a particular shooting day must be noted on the shooting schedule. For a sample shooting schedule see Appendix B.

Translating the script into a director s breakdown. The script is then translated into a director's breakdown. This is a shot-for-shot visualization of the script, planned in much greater detail than is practical in the script itself. Each day as the shooting progresses, the director formulates a detailed order for the next day's shooting. He plans every shot he will do the next day, arranges the most efficient shooting order, and commits the order to memory. When he walks onto the location, he knows exactly what is to be done, how, and in what order. This way he is free to attend to the numerous other decisions he must make during the day.

Production

Considering the convenience of those being filmed. In the production or shooting phase, there are usually two main considerations to be balanced. One is SWRL's production needs, the other is the convenience of the school whose facilities are being used. The paramount criterion in this balance is the need to maintain SWRL's good relationship with the school. While there is the possibility that these two factors conflict with each other, experience has shown this to be rare, if preparation is thorough. In fact, most teachers have welcomed the presence of the film crew as a unique learning experience for the students.

Using the appropriate film stock. Generally a color film stock is more desirable than black and white as it has a higher degree of acceptance with audiences, is usually more interesting to look at, and adds an extra dimension to communication. New color emulsions are now fast enough so that no more light is needed than with most black and white film stocks.

Determining the quantity of film stock for shooting. The quantity of film stock carried on location should be in excess of the expected shooting ratio (footage shot to footage appearing in the finished film). In theatrical and documentary productions in the film industry, a typical shooting ratio may be as high as 30 to 1. Several factors can make the ratio vary considerably. For instance the amount of control one can exercise over the subject has an effect; the less control the higher the ratio. If synchronous sound is recorded with the picture, the necessity for retakes is more likely, and the ratio goes up. For example, a film with non-professional actors shot in documentary style and with much synchronous sound (like past SWRL films) would have a higher shooting ratio than a film with professional actors and non-synchronous sound. On past SWRL productions the ratio has averaged 8 to 1, which is considered a very low ratio for this type of production.

Procuring filming equipment. The SWRL Film Department has a complete production capability and has the equipment needed for most types of filming. For location shooting as done in past films, the needed equipment includes a 16mm camera and accessories, a synchronous sound recorder and microphones, a complete portable lighting system, and numerous properties.

Transporting filming equipment. In view of the amount and high value of the equipment, the best methods of transporting it is by an easy-to-load panel truck which does not obviously reveal its contents.

Determining the personnel requirements. Liaison duties are conducted by a Resource Services representative who has two main responsibilities to fulfill. First, he supervises the logistics of location shooting. He communicates with the schools being used, distributes and collects parental permission slips, arranges hotel accommodations and transporation. Second, his overriding responsibility is to ensure that SWRL's good relationship with the particular school system is maintained. In this interest his authority supersedes that of the director, not with regard to the style or content of what is shot, but only in matters directly involving the maintenance of SWRL's good relationship with the school system.

A project with specifications similar to past SWRL films requires a crew consisting of the director, cinematographer, sound man, mixer, and production assistant.

Anyone appearing in a film is referred to as an actor, regardless of his relationship to the role he presents. For instance, anyone appearing as a teacher or student, even if he really is a teacher or student, must be able to take direction, move, deliver lines, and project personality, just as any other actor. Casting, therefore, is one of the director's most important responsibilities, as the success of the film can depend on it.

Post-Production

Processing the camera original film. The camera original film is developed. This must be kept free of any scratches or damage, as all future prints must be made from it. Therefore, a "work print" is immediately made from the original to serve as a working copy for the editor's use.

The sound track is transferred from 1/4 inch tape to 16mm magnetic recording film.

Synchronizing sound with the picture. Sound is synchronized with the picture, cutting the 16mm "mag" to the uncut picture. Sound and picture are then sent to a processing lab to have matching code numbers printed on their edges. This will help the editor stay "in sync."

Editing the film. This is the most complicated and time consuming part of the film production process. Here the pieces of the mosaic are put together. First the editor virtually memorizes the script. He views all the footage until he is implicitly familiar with all of it. In deciding what to use and what to discard, he must judge not only the film's relation to the script, but its intrinsic technical and aesthetic qualities as well. A take that is "good" in following the script's direction might turn out to be unpleasing in overall effect, or it might be technically inconsistent with previous editorial decisions. The editor's decisions give final shape to the structure, the content, the sequence, and the pacing of the film, both in an overall sense and down to a level of frame by frame detail. Meanwhile he must be careful to keep pictures in sync with sound, which may end up consisting of as many as seven sound tracks.

During the editing phase, as the film begins to take shape, the graphics and special effects are planned and ordered. Also during this period, the music is planned and recorded. If original music is desired, the aid of an experienced composer and musicians, working closely with the film editor, is required.

The "rough cut" is shown to those who must sign off to approve final processing. The rough cut is a version of the picture which is substantially complete and representative of the final version, but may be lacking in certain editorial refinements which will be added later. The narration is then recorded and synchronized with the picture.

Final Processing

Converting the sound tracks. All the sound tracks, now synchronized with the picture, are taken to a sound studio for a master mix. The master mix tape is then converted to an optical master track.

Cutting the camera original. Meanwhile the camera original is sent to the negative cutter who cuts the original to match the work print.

Making the "first trial composite." From the cut original and the optical master sound track, a "first trial composite" is made. This is like a release print, but its purpose is to allow for final minor corrections, such as adjustments in the print's color balance and brightness.

Printing in quantity. If more than 10 prints are required, an "internegative master" is made. This is on a durable film stock, suitable for printing in quantitiy. After trial prints from the internegative are approved for quality, release prints are ordered and printed. The release prints are wound onto reels and packaged in cans and mailing cartons. During the processing of the release prints, the Film Department collates and finalizes the documentation of the project just completed.

Allotting film production time. For a film similar in nature, technical requirements, and approximate length to the existing ICP and CS1 films, a minimum of 21 weeks should be allotted:

Number of Weeks	Work
4	Preparation
5	Production
9	Post-Production
3	Final Processing

Averaging film cost. The average cost of the ICP and CS1 films, not including salaries and release prints, was approximately $6,000 each. The price of each release print goes down as the quantity ordered increases. Release prints for each production cost approximately $3,300 per hundred prints.

Changing original film specifications. Generally, any change in the specifications of a film, once pre-production work is under way, means an increase in required time and cost. The later such changes occur, the greater these increases. It is advisable, then, to be as certain as possible of the subject matter. If, for instance, the subject of a film is a SWRL instructional program, the program itself should be as near to its completed state as possible before being committed to film.

APPENDIX A: SCRIPT SAMPLE

On the left margin, the scenes are numbered. Caps indicate the setting and technical and camera directions. Lower case is used to describe the action. Dialogue and narration are written in lower case with narrower margins in the center of the page.

FYCSP FILM - DRAFT 2

FADE IN:

1. INT KINDERGARTEN CLASSROOM - WIDE SHOT
   CHILDREN play with blocks on the floor. The Teacher sits at a desk in background. A Child ENTERS FRAME in the FOREGROUND and we FOLLOW her as she walks away from us toward the area where the others are playing.

DISSOLVE TO

2. MEDIUM SHOT ON BUILDING BLOCKS & KIDS
   We TRUCK along the Kids and finally hold on "Johnny." He is absorbed in the blocks.

3. TEACHER AT DESK - "JOHNNY" IN BACKGROUND
   She calls him over.
   "Johnny" rises and comes to her.
   She asks him to read from a SWRL book.
   "Johnny" reads several sentences exceptionally well.

MATCH DISSOLVE TO

4. SAME SCENE - DIFFERENT CHILD
   The Child reads very well.

MATCH DISSOLVE TO

5. SAME SCENE - DIFFERENT CHILD
   This Child also reads very well.
   The READING FADES OUT under the following Narration:

NARR.

These are kindergarten children reading (etc.)

DISSOLVE TO

6. We PULL BACK to WIDE SHOT of CLASS and TEACHER.

We see Teacher ask a question.

NARR.

For the young child, the first reading experiences are very important to future success in all learning activities.

NARR.

It has been found that the ages from 4 1/2 to 6 are learning periods wherein critical intellectual development takes place.

7. REVERSE ANGLE ON KIDS
Children read. ONE responds enthusiastically.

NARR.

It has always been known that some children learn to read at an early age, and that for these children subsequent learning seems to be easy.

DISSOLVE TO

8. EXT PLAYGROUND
We are on a WIDE SHOT of Children playing.
In the background, a Child sits under a tree, absorbed in a book.

NARR.

But these children . . .

Immediately, we ZOOM IN on the Child reading.

NARR.

. . . were assumed to be especially bright and unusual.

FREEZE FRAME

DISSOVLE TO

SHOOTING SCHEDULE

APPENDIX B: SAMPLE SHOOTING SCHEDULE

PRODUCTION: FIRST YEAR COMMUNICATION SKILLS PROGRAM

FILM DIRECTOR: PETER SZONDY

Date	Location	Scenes	Actors	Props	Tech.	Notes
4-22	Sherman School/ Miss Black	10a-10d	Miss Black, Class	Manual, Flash-cards	Tungsten, wide lens, dolly	
		11-11d		Storybooks		Good readers
		13		Storybooks	MOS	
4-23	Sherman/Black	17-17b	Black, Class	Storyposter	Tung.	Teacher wear same dress
		18-18b	Black, 2 kids	Storybooks		correction of error tech.
		19-19b	2 Kids (cf. 18+)	Storybooks		
4-24	Emerson School/ Mrs. Chamberlain	20-20d	Mrs. Chamberlain, Class	Crit. Ex.	Tung.	
		21-21f	Mrs. Christian, 1 child	Storybook		Interaction
4-27	SWRL, Conf. Room	31a-31b	----------	Storyposters, Storybooks, Manual, File Box	Tung. MOS No additional crew	Materials Only
		32-32c	----------	Class Record Sheet		
4-28	Torrance/Private home	40-48	Mother, Father, Child	All storybooks	Daylight/Tung.	Living room, bedroom/ street clothes/ p.j.s for child

APPENDIX C: LEXICON

This list is primarily for the benefit of those who will read SWRL film scripts but are not familiar with the terminology. The terms are listed alphabetically.

Term	Definition
ARC	A camera movement which traces an arc around the subject being photographed.
CS	Close-shot; upper chest to head view of subject.
CU	Close-up; closer than a close-shot.
DISSOLVE	A processing technique by which one shot fades out while another shot fades in over it. At the midpoint of the dissolve, both shots are visible, one superimposed over the other.
DOLLY	A movement of the camera either toward or away from the subject.
ECU	Extreme close-up; closer than a close-up.
EXT	Exterior.
FADE-IN	A processing technique the effect of which is that a completely dark scene is gradually illuminated until a picture is fully visible.
FADE-OUT	The reverse of a fade-in; the scene ends up completely dark.
FAVOR	When two subjects appear in a scene, the one favored is the one in the visually dominant position.
FREEZE-FRAME	A processing technique, the effect of which is that the action suddenly stops and a static image is held on the screen.
FS	Full-shot; a head to foot view of the subject.
HIGH ANGLE	Describes a shot which looks down on the subject from above.

Term	Definition
INT	Interior.
LOW ANGLE	Describes a shot which looks up at the subject from below.
LS	Long-shot: views subject from far away.
MATCH DISSOLVE	A dissolve wherein certain elements of both shots involved are so similar as to "match," e.g., A shot looking out of a window at night could match dissolve to a shot with identical framing but taken in daylight, to indicate a passage of time.
MONTAGE	A rapid succession of short scenes with related themes.
MS	Medium-shot; waist to head view of subject.
OVERSHOULDER	Describes a view of the primary subject from behind and over the shoulder of a person in the foreground who is generally seen only partially, simply to indicate his presence.
PAN	A horizontal left or right movement of the camera on its axis.
POV	Means that the image is understood to be seen through a character's point of view.
REVERSE	The positioning of the camera in a direction opposite from the previous shot.
SCENE	The place or setting where the action is laid. May consist of one shot or a series of shots depicting a continuous event.
SEQUENCE	A series of scenes or shots, complete in itself. May occur in a single setting or several settings.
SHOT	A continuous view, filmed by one camera without interruption.
SMASH CUT	A sudden change of scene, jarringly done for dramatic effect.

Term	Definition
TRUCK	A lateral camera movement, left or right.
WHIP PAN	An extremely fast pan, usually used for an exciting transition from one scene to another.
WS	Wide-shot; encompasses a large area or many subjects.
ZOOM	A lens movement which makes the subject appear to move closer or farther from the camera.